

AMENDMENTS TO THE CLAIMS

1-10. (Canceled)

11. (Currently amended) A hemostasis device comprising:

a main shaft;

at least one balloon having a configuration to delimit a volume of blood; and

at least one electrode, operable to supply an electric current and to thereby heat the a-volume of blood adjacent to said at least one electrode and to cause coagulation of said blood and closure of the puncture.

12. (Original) A hemostasis device according to claim 11 and wherein said at least one balloon comprises: at least one anchor balloon, disposed at an end of said main shaft; and at least one peripheral balloon, disposed at a location along said main shaft exterior to a wall of said main shaft.

13. (Original) A hemostasis device according to claim 12 and wherein said volume of blood is delimited by said peripheral balloon and a wall of said artery.

14. (Original) A hemostasis device according to claim 11 and also comprising an electrical power source and control module.

15. (Original) A hemostasis device according to claim 14 and wherein said electrical power source and control module comprises: a power supply, operative to supply power to said at least one electrode; feedback measurement means; and a processor.

16. (Original) A hemostasis device according to claim 15 and wherein said power supply is an RF power supply.

17. (Original) A hemostasis device according to claim 16 and wherein said RF power supply is operative to supply electrical power at RF frequencies within a range of 0.1-10 watts at up to 25 volts.

18. (Original) A hemostasis device according to claim 15 and wherein said feedback measurement means is operative to measure at least one of electrical current, blood resistance and blood temperature.

19. (Original) A hemostasis device according to claim 15 and wherein said processor is operative to adjust said power based on an output from said feedback measurement means.

20. (Original) A hemostasis device according to claim 11 and wherein said at least one electrode comprises a pair of electrodes.

21-27 (Canceled)

28. (New) A hemostasis device for closing a puncture in an artery wall, comprising:

a main shaft;

at least one expandable member disposed on the main shaft, wherein the expandable member in one configuration delimits a blood coagulation volume by the engagement of the expandable member against an outside of an artery wall; and

at least one electrode, operable to supply an electric current, coupled to the main shaft in the vicinity of the blood coagulation volume,

wherein upon activation of the electrode, the electrode causes blood disposed in the blood coagulation volume to coagulate thereby causing a closure of the puncture.

29. (New) A hemostasis device according to claim 28 and wherein the at least one expandable member comprises: at least one anchor balloon, disposed at an end of the main shaft; and at least one peripheral balloon, disposed at a location along the main shaft exterior to a wall of the main shaft.

30. (New) A hemostasis device according to claim 29 and wherein the blood coagulation volume is delimited by the peripheral balloon and the artery wall.

31. (New) A hemostasis device according to claim 28 and also comprising an electrical power source and control module.

32. (New) A hemostasis device according to claim 31 and wherein the electrical power source and control module comprises: a power supply, operative to supply power to the at least one electrode; feedback measurement means; and a processor.

33. (New) A hemostasis device according to claim 32 and wherein the power supply is an RF power supply.

34. (New) A hemostasis device according to claim 33 and wherein the RF power supply is operative to supply electrical power at RF frequencies within a range of 0.1-10 watts at up to 25 volts.

35. (New) A hemostasis device according to claim 32 and wherein the feedback measurement means is operative to measure at least one of electrical current, blood resistance and blood temperature.

36. (New) A hemostasis device according to claim 32 and wherein the processor is operative to adjust the power based on an output from the feedback measurement means.

37. (New) A hemostasis device according to claim 28 and wherein the at least one electrode is disposed at a distal end of the device.

38. (New) A hemostasis device comprising:
a main shaft;
at least one expandable member having one configuration for defining a volume of blood adjacent a puncture in an artery wall; and
means for supplying an electric current to heat the volume of blood to cause coagulation of the blood and closure of the puncture.

39. (New) A hemostasis device according to claim 38 and wherein the at least one expandable member comprises: at least one anchor balloon, disposed at an end of the main shaft; and at least one peripheral balloon, disposed at a location along the main shaft exterior to a wall of the main shaft.

40. (New) A homeostasis device according to claim 39 and wherein the volume of blood is delimited by the peripheral balloon and the artery wall.

41. (New) A hemostasis device according to claim 38 and also comprising an electrical power source and control module.

42. (New) A hemostasis device according to claim 41 and wherein the electrical power source and control module comprises: a power supply, operative to supply power to the at least one electrode; feedback measurement means; and a processor.

43. (New) A hemostasis device according to claim 42 and wherein the power supply is an RF power supply.

44. (New) A hemostasis device according to claim 43 and wherein the RF power supply is operative to supply electrical power at RF frequencies within a range of 0.1-10 watts at up to 25 volts.